15/Appeal Brief 1-28-04 NP Clm

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: **MANFRED BOLDY ET AL.**	§	Attorney Docket No. **DE919990090US1**
Serial No.: **09/724,040**	§	Examiner: **ABBAS I. ABDULSELAM**
Filed: **28 NOVEMBER 2000**	§	
For: **ACTUATING DEVICE FOR MINIATURE KEYBOARDS**	§	Art Unit: **2674**

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Brief is submitted in triplicate in support of the Notice of Appeal, mailed on January 14, 2004, in the above-referenced application.

CERTIFICATE OF MAILING
37 CFR 1.8(A)

I hereby certify that this correspondence is, on the date shown below, being deposited with the United States Postal Service as First Class Mail in an envelope addressed to **Mail Stop Appeal Brief – Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**.

January 14, 2004
Date

Signature of Betty J. Kirk

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REAL PARTY IN INTEREST

The Real Party in Interest in the present Appeal is International Business Machines Corporation, the assignee, as evidenced by the assignment set forth at Reel 011702, Frame 0701.

RELATED APPEALS AND INTERFERENCES

No related appeals or interferences are known to Appellant, Appellant's legal representative, or assignee, which will directly affect, or be directly affected by, or have a bearing on the Board's decision in the present Appeal.

STATUS OF THE CLAIMS

Claims 12-25 stand finally rejected by the Examiner as noted in the Final Office Action dated November 18, 2003, and are on appeal.

STATUS OF THE AMENDMENTS

No amendment was submitted subsequent to the Final Office Action.

SUMMARY OF THE INVENTION

The present invention comprises a tiny flexible pointing device that is designed to be adhesively bonded and, in some cases, vacuum sealed to the tip of a single human fingertip. Specification, page 6, lines 3-4, 9-11; page 8, lines 9-11; Figure 1. The pointing device has a tip that is designed to depress or actuate diminutive keys on a keyboard, such as those found on miniature keyboards on input tablets. Page 13, lines 5-7. The tip of the pointing device is resilient enough to depress the keys, but flexible enough to provide comfort for the user. Page 3, lines 8-12.

Claims 12-16 are directed to the first embodiment of the present invention, which comprises a two-piece, two-material design. Figures 2 and 3. Some of the key distinctions for this embodiment are the relationships between the elements of the dome and those of the pin. Page 6, line 3 – page 8, line 17. The dome has an axial opening located opposite the base surface, an axial cavity that tapers down from the base surface to the axial opening, a pin extending from the base surface of the dome through the axial opening of the dome such that the

pin has an axial dimension that is greater than the axial dimension of the dome, and the tip of the pin extends axially beyond the axial opening of the dome. Moreover, the dome of is formed from a soft plastic material such that the dome is adaptable to a fingertip. Finally, this embodiment has an adhesive layer joined to the base surface of the dome for adhering and securing the dome to the fingertip, the adhesive layer permitting repeated removal and rebonding with respect to the fingertip.

Claims 17-20 are directed to the second embodiment of the present invention, which comprises a two-cavity, completely integrated design. Figures 4 and 5. Like the preceding embodiment, this embodiment requires an adhesive layer joined to the base surface of the dome for adhering the dome, along with the vacuums formed by the inner and outer cavities, to the fingertip, the adhesive layer permitting repeated removal and rebonding with respect to the fingertip. Page 7, line 22 – page 8, line 15. There is also symmetry among all of the components, co-planarity, and adhesive and cavity contact to form both bonding and vacuum retention, respectively. The final set of claims, 21-25, are directed to the third embodiment, which again is a two-piece, two-material design. Figures 6 and 7; page 8, line 19 – page 9, line 9.

ISSUE

Is the Examiner's rejection of the claims under 35 U.S.C. § 103(a) as being unpatentable over the cited references well founded?

GROUPING OF THE CLAIMS

For purposes of this appeal, all of the claims stand or fall together as one group.

ARGUMENTS

The Examiner finally rejected all of the claims under 35 U.S.C. § 103(a). The Examiner stated that claims 12-25 are unpatentable over *Bishop* (USPN 5,529,415) in view of *Walker* (USPN 3,787,898). Final Office Action, pages 3-5.

There are at least two major differences between every one of Applicant's embodiments and the cited prior art combination of references. First, Applicant's invention adhesively bonds directly to the fingertip. The adhesive is located between the finger and the invention. In contrast, the *Walker* reference uses adhesive on the outside of the invention so that a pen sticks to the exterior of the glove—not to the finger. Column 2, lines 46-50; col.5, lines 1-9; col.8, lines 30-31; and Abstract, lines 7-8. The *Bishop* reference does not mention any form of an adhesive. Second, all of Applicant's embodiments are rotationally symmetric about their axes. However, neither prior art reference discloses even a single embodiment that is rotationally symmetric about an axis. *Bishop* is closer to symmetric than *Walker*, but clearly Figure 3 of *Bishop* indicates that it is not rotationally symmetric.

Applicant's first embodiment is covered by claims 12-16. In addition to the two distinguishing features described in the preceding paragraph, these claims require "a dome having...an axial opening located opposite the base surface." *Bishop* has a base surface 16, but is closed solid on the opposite end. *Walker* merely discloses a glove that has no elements like claims 12-16. In addition, these claims require "a pin...extending from the base surface of the dome through the axial opening of the dome." *Bishop's* pin 24 is located exclusively on the exterior of the housing 14.

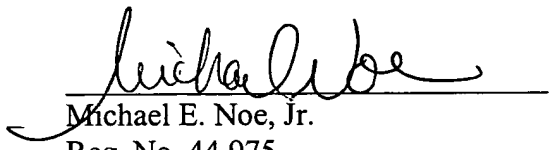
Dependent claim 13 adds that the base surfaces of the dome and the pin are "co-planar to define a single contact surface for contacting the device with the fingertip." As clearly shown in Figure 1 of *Bishop*, no portion of the pen 24, 20 touches any part of the finger of the user. Claim 14 states that "the adhesive layer is circular and covers the entire base surfaces of both the dome and the pin, and wherein the adhesive layer is perforated for absorbing deposits of perspiration on the fingertip." As stated above, the only adhesive used by either reference is on the exterior of the glove of *Walker*. It is impossible to characterize *Walker* in the manner described by claim 14 since *Walker* is completely lacking the structural elements on which the adhesive is required to be located. Claim 16 requires the pin to have "an exterior profile that is contoured to a shape of the axial cavity of the dome." The pen 24, 20 of *Walker* merely follows the exterior of its dome 14. Each of these claims is allowable for the same reasons as claim 12 and for their own further distinguishing characteristics.

Claims 17-20 are directed to the second embodiment (Figures 4 and 5) of the present invention, which comprises a two-cavity, completely integrated design. These claims contain so many elements that differ from the cited references that Applicant is again confused as to how the references could possible be cited against them. For example, claim 17 requires "a dome having...an outer wall, an inner wall, an outer cavity located between the outer and inner walls adjacent to the perimeter, an inner cavity located radially inward of the inner wall relative to the axis, the inner cavity having an axial dimension that is greater than an axial dimension of the outer cavity, the entire dome being formed from a single material such that the dome molds to a fingertip but is hard enough for the tip to actuate keys, and each of the inner and outer cavities forming a vacuum between the dome and the fingertip." This unique structure (e.g., multiple walls, cavities, their interplay, and a single material) are so different from the devices of the cited references that they cannot be compared. The remaining claims require symmetry among all of the components, co-planarity, and adhesive and cavity contact to form both bonding and vacuum retention, respectively.

The final set of claims, 21-25, are directed to the third embodiment of Figures 6 and 7. These claims require many of the same elements as the preceding claims, while requiring their own unique structural limitations. For example, claims 21-25 require rotational symmetry, an inlay, the inlay to fill the entire axial cavity, for the inlay to have a smaller axial dimension than the dome, and for the inlay to be compressible. None of these features are found in the cited prior art combination. Moreover, claims 22-25 require the following unique elements: a lenticular inlay, co-planar base surfaces of the inlay and dome, inlay contoured to axial cavity, and for the adhesive to only cover the base surface of the dome, not the inlay.

For these reasons, it is respectfully urged that the claims are in condition for allowance and favorable action is requested. Please charge **IBM Corporation Deposit Account No. 50-0563** in the amount of **$330.00** for the Appeal Brief fee. If any additional fees are required, please charge **IBM Corporation Deposit Account No. 50-0563**.

Respectfully submitted,



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ATTORNEY FOR APPLICANTS

APPENDIX

12. A device for actuating small keys on miniature keyboards, input tablets, and the like, comprising:

a dome having an axis, a base surface, an axial opening located opposite the base surface, an axial cavity that tapers down from the base surface to the axial opening, an axial dimension measured from the base surface to the axial opening, and a profile that is rotationally symmetric about the axis, the dome being formed from a soft plastic material such that the dome is adaptable to a fingertip;

a pin having an axis, a base surface, and a tip, the pin being located in and coaxial with the axial cavity of the dome, and the pin extending from the base surface of the dome through the axial opening of the dome such that the pin has an axial dimension that is greater than the axial dimension of the dome, and the tip of the pin extends axially beyond the axial opening of the dome; and

an adhesive layer joined to the base surface of the dome for adhering and securing the dome to the fingertip, the adhesive layer permitting repeated removal and rebonding with respect to the fingertip.

13. The device of claim 12, wherein the base surfaces of the dome and the pin are co-planar to define a single contact surface for contacting the device with the fingertip.

14. The device of claim 12, wherein the adhesive layer is circular and covers the entire base surfaces of both the dome and the pin, and wherein the adhesive layer is perforated for absorbing deposits of perspiration on the fingertip.

15. The device of claim 12, wherein the pin is formed from a material that is harder than the soft plastic material of the dome such that the pin is resilient for actuating keys, and wherein the dome is pressed back onto the fingertip during operation.

16. The device of claim 12, wherein the pin has an exterior profile that is contoured to a shape of the axial cavity of the dome.

17. A device for actuating small keys on miniature keyboards, input tablets, and the like, comprising:

a dome having an axis, a perimeter, a base surface extending around the perimeter, a tip located opposite the base surface, an outer wall, an inner wall, an outer cavity located between the outer and inner walls adjacent to the perimeter, an inner cavity located radially inward of the inner wall relative to the axis, the inner cavity having an axial dimension that is greater than an axial dimension of the outer cavity, the entire dome being formed from a single material such that the dome molds to a fingertip but is hard enough for the tip to actuate keys, and each of the inner and outer cavities forming a vacuum between the dome and the fingertip; and

an adhesive layer joined to the base surface of the dome for adhering the dome, along with the vacuums formed by the inner and outer cavities, to the fingertip, the adhesive layer permitting repeated removal and rebonding with respect to the fingertip.

18. The device of claim 17, wherein each of the perimeter, the base surface, the tip, the outer wall, the inner wall, the outer cavity, and the inner cavity are rotationally symmetric about the axis.

19. The device of claim 17, wherein the base surface and a portion of the inner wall are co-planar for contacting the fingertip.

20. The device of claim 17, wherein the adhesive layer is circular and covers only the base surface of the dome, such that the inner cavity, the inner wall, and the outer cavity are exposed for direct contact with the fingertip.

21. A device for actuating small keys on miniature keyboards, input tablets, and the like, comprising:

a dome having an axis, a perimeter, an annular base surface located adjacent to the perimeter, a tip located opposite the base surface, a convex exterior, an axial cavity that is concave in shape and tapers down from the base surface toward the tip, the axial cavity having an axial dimension that is less than an axial dimension measured from the base surface to the tip, and a profile that is rotationally symmetric about the axis, the dome being formed from a material that is adaptable to a fingertip;

an inlay located in and coaxial with the axial cavity, the inlay having an axis, and a base surface, the inlay extending from the base surface of the dome and filling the entire axial cavity of the dome, such that the inlay has an axial dimension that is less than the axial dimension

measured from the base surface of the dome to the tip of the dome, the inlay being compressible such that a vacuum is formed between the dome and the fingertip; and

an adhesive layer joined to the base surface of the dome for adhering and, along with the vacuum formed by the inlay, securing the dome to the fingertip, the adhesive layer permitting repeated removal and rebonding with respect to the fingertip.

22. The device of claim 21, wherein the inlay is lenticular in shape and formed from a felt.

23. The device of claim 21, wherein the base surfaces of the dome and the inlay are co-planar to define a single surface for contact with the fingertip.

24. The device of claim 21, wherein the inlay has an exterior profile that is contoured to a shape of the axial cavity of the dome.

25. The device of claim 21, wherein the adhesive layer is circular and covers only the base surface of the dome, such that the base surface of the inlay is exposed for direct contact with the fingertip.